

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A microcomputer having a user mode and a debugging mode, and an on-chip debugging function, said microcomputer comprising:

a central processing unit formed to be switchable between said user mode and said debugging mode, for executing instructions in each of said user mode and said debugging mode; and

a debugging terminal connected to a communications line for transferring debugging information, that is used for on-chip debugging, to and from an external debugging tool; and

a switch that switches said central processing unit from said user mode to said debugging mode when a forced break is input through a-the debugging terminal that is not used in said user mode, except for inputting the forced break.

2. (Canceled)

3. (Currently Amended) The microcomputer as defined in claim 21, wherein:

said microcomputer comprises a first monitor that transfers data to and from a second monitor means, determining a primitive command to be executed according to said data received from said second monitor means, and executing the determined primitive command, said second monitor being provided outside said microcomputer for converting a debugging command into at least one primitive command;

a single communications line for transferring said data in a half-duplex bidirectional manner is connected to said debugging terminal;

said central processing unit executes a user program when in said user mode and executes said primitive command when in said debugging mode; and

said switch switches said central processing unit from said user mode to said debugging mode when a forced break is input through said debugging terminal.

4. (Previously Presented) The microcomputer as defined in claim 1, further comprising:

a holder that holds a terminal for the input of a forced break at a first level which is either one of high or low, during a state in which no external debugging tool is connected,

wherein said central processing unit starts execution in said user mode when said terminal for inputting said forced break is at said first level at a time of reset, or starts execution in said debugging mode when said terminal for inputting said forced break is not at said first level at a time of reset.

5. (Currently Amended) The microcomputer as defined in claim 21, further comprising:

a holder that holds a terminal for the input of a forced break at a first level which is either one of high or low, during a state in which no external debugging tool is connected,

wherein said central processing unit starts execution in said user mode when said terminal for inputting said forced break is at said first level at a time of reset, or starts execution in said debugging mode when said terminal for inputting said forced break is not at said first level at a time of reset.

6. (Previously Presented) The microcomputer as defined in claim 3, further comprising:

a holder that holds a terminal for the input of a forced break at a first level which is either one of high or low, during a state in which no external debugging tool is connected,

wherein said central processing unit starts execution in said user mode when said terminal for inputting said forced break is at said first level at a time of reset, or starts execution in said debugging mode when said terminal for inputting said forced break is not at said first level at a time of reset.

7. (Original) Electronic equipment comprising:

the microcomputer of claim 1;

an input source of data that is to be a processing object of said microcomputer;

and

an output device for outputting data that has been processed by said

microcomputer.

8. (Canceled)

9. (Original) Electronic equipment comprising:

the microcomputer of claim 3;

an input source of data that is to be a processing object of said microcomputer;

and

an output device for outputting data that has been processed by said

microcomputer.

10. (Original) Electronic equipment comprising:

the microcomputer of claim 4;

an input source of data that is to be a processing object of said microcomputer;

and

an output device for outputting data that has been processed by said

microcomputer.

11. (Original) Electronic equipment comprising:

the microcomputer of claim 5;

an input source of data that is to be a processing object of said microcomputer;
and

an output device for outputting data that has been processed by said
microcomputer.

12. (Original) Electronic equipment comprising:

the microcomputer of claim 6;

an input source of data that is to be a processing object of said microcomputer;
and

an output device for outputting data that has been processed by said
microcomputer.

13. (Currently Amended) A debugging system for a target system including a
microcomputer, and an on-chip debugging function, said debugging system comprising:

a second monitor that performs processing for converting a debugging
command developed by a host system into at least one primitive command;

a first monitor that transfers data to and from said second monitor, determining
a primitive command to be executed according to said data received from said second
monitor, and executing the determined primitive command;

a central processing unit formed to be switchable between a user mode and a
debugging mode, for executing said primitive command in said user mode;

a debugging terminal ~~not used in said user mode and~~ provided on a chip
including said central processing unit and connected to a ~~single~~ communications line for
transferring ~~said data in a half duplex bidirectional manner~~ debugging information, that is
used for on-chip debugging, to and from an external debugging tool; and

a switch that switches said central processing unit from said user mode to said debugging mode when a forced break is input through said debugging terminal not used in said user mode, except for inputting the forced break.